

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claims 1-12 remain in the application. Claims 10-12 have been withdrawn from consideration at the present time.

Claims 1-9 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the best mode requirement and enablement requirement. Claims 1-9 also stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite and for omitting essential elements.

The Examiner has raised issues regarding the terms "positioning means", "gas supply means", and "means for producing a high frequency alternating field". In the present amendment, these terms have been replaced with more specific terms. The new terms are clearly described within the specification and drawings.

The term "positioning means" has been replaced by the term "substrate support." The substrate support is element 26 within the drawings and is expressed in claim 1 as being electrically grounded, floating or negatively biased. The substrate support is described within paragraph [0018] and Figs. 3 and 4 of the specification.

The term "gas supply means" has been replaced by the term "gas supply lines." The gas supply lines are elements 33 within the drawings and are expressed in claim 1 as being positioned for supplying a process gas mixture to a space

between the substrate support and the magnetron faces. The gas supply lines are described within paragraph [0019] and Fig. 4 of the specification.

The term "means for producing a high frequency alternating field" has been replaced by the term "electrode piece." The electrode piece is element (21) within the drawings and is expressed in claim 1 as being powered by a high frequency alternating voltage. The electrode piece is described within paragraph [0017] and Fig. 3 of the specification.

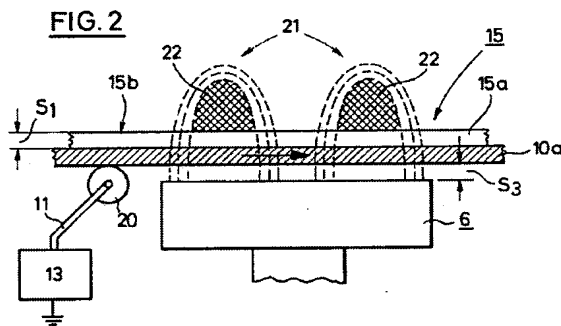
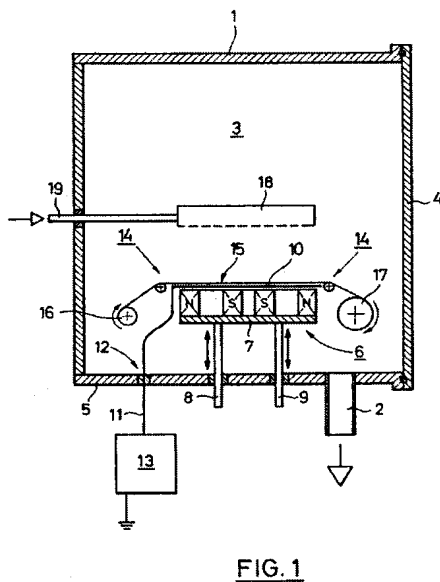
The best mode of the invention, as claimed within the amended claims, is sufficiently described within the specification. Additionally, the specification sufficiently enables any person skilled in the art to which the invention pertains to make and use the invention as claimed in the amended claims. Additionally, the amended claims particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has further been rejected under 35 U.S.C. §112, second paragraph, as having insufficient antecedent basis for the term "the surface to be treated." Applicant refers the Examiner to the "wherein" clause immediately proceeding the wherein clause containing the phrase in question, where the term "a surface to be treated" is contained therein.

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-9 under 35 U.S.C. §112, first paragraph and second paragraph.

Claims 1, 5 and 6 stand rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as obvious over U.S. 4,863,756 to Hartig et al. (hereinafter Hartig). For the following reasons, the Examiner's rejection is traversed.

Hartig is directed to a method for coating continuously moving substrates by the deposition of compounds from the gas phase by means of plasma discharge, produced by an electrode, with a chemical reaction, a system of magnets for the generation of a magnetic trap to constrict the plasma being disposed on one side of the substrate. Figs. 1 and 2 of Hartig are reproduced below. The substrate 15 moves across the surface of the electrode 10. A gas feeding device 18 is located above the substrate 15 and the electrode 10. The substrate 15 passes through two plasma 22 tunnels in a magnetic trap as it is coated.



Regarding claim 1, several features of the claimed invention are not taught or suggested by the cited reference. Hartig does not teach or suggest a substrate support that is "equipped for positioning the substrate with a surface to be treated facing the magnetron face", as required. Rather, referring to Fig. 2 of Hartig, the substrate 15 includes a surface 15b that is to be treated. This surface 15b is averted from the system of magnets 6 and the conductive part 10a of the electrode

10 (see Col. 5 Lines 59-61 of Hartig). Thus, in Hartig the surface 15b of the substrate 15 to be treated faces away from the face of the magnets 6, and this teaches directly away from the claimed invention where a surface to be treated faces the magnetron face.

Additionally regarding claim 1, Hartig does not teach or suggest gas supply lines that are "equipped for supplying a process gas or process gas mixture to the space between the magnetron face and the surface to be treated on the substrate", as required. Rather, Hartig teaches a gas feeding device 18 that is located above both the substrate 15 and magnets 6 and supplies gas downward onto the surface 15b of the substrate 15 being treated. However, the gas is supplied into a space on the opposite side of the substrate 15 from a space that is defined between the substrate 15 and the magnets 6. By supplying gas only to the opposite side of the substrate, Hartig teaches away from the claimed invention.

Additionally regarding claim 1, Hartig does not teach or suggest "a distance between the magnetron face and the substrate support that is adapted to the magnetic field created by the magnetron electrode such that there is a visible plasma band running *between darker tunnels formed by magnetic field lines* extending between peripheral and central magnetic poles of the magnetron face *and the surface to be treated*", as required (italics added). Rather, Hartig teaches the surface of the substrate (actually the entire substrate) being treated being positioned within the darker tunnels formed by magnetic field lines. Because the substrate is within the darker tunnels, there is no space *between* the substrate and the darker tunnels. Thus, no plasma band can be located in such a space. Hartig teaches away from the claimed plasma position. In Hartig (Col. 4, lines 15-18) the constricted

plasma and chemical reaction zones are on the side of the substrate averted from the electrode.

For at least the reasons stated above, reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) is respectfully requested. Claims 5 and 6 depend directly or indirectly from claim 1 and are believed to be allowable at least for the reasons above. Reconsideration and withdrawal of the rejection of claims 5 and 6 is respectfully requested.

Claims 2-4 and 7-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hartig. Claims 2-4 and 7-9 depend directly or indirectly from claim 1 which is believed to be patentable over Hartig for at least the reasons stated above. The Examiner states that there is motivation to optimize the position of Hartig's magnetron electrode to avoid flaking and peeling of coated articles. But, as previously stated with regard to the claimed features described above, and not taught by Hartig, Hartig teaches directly away from the claimed features. Reconsideration and withdrawal of the rejection of claims 2-4 and 7-9 is respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. FRR-16007.

Respectfully submitted,

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